



Docket No.: 1843.1002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Takeshi FUJISAWA et al.

Serial No. 10/521,733

Group Art Unit: 1798

Confirmation No. 8905

Filed: September 8, 2005

Examiner: BUTTNER, David J.

For: POLYPHENYLENE ETHER-BASED RESIN COMPOSITION

DECLARATION UNDER 37 C.F.R. §1.132

I, Takeshi Fujisawa, the undersigned hereby declare and state:

1. I am the first named inventor for the above-identified U.S. patent application.
2. I obtained a Master's degree majoring in catalytic chemistry at the Graduate School of Engineering, Tokyo Institute of Technology, Japan and graduated therefrom in March 1987. I began to work for Asahi Kasei Kabushiki Kaisha in April, 1987. Since then, I have been engaged in the research and development of synthetic resins.
3. To aid in the consideration of the effect of the vinyl content of the copolymers, I, Takeshi Fujisawa (the first-named inventor for the above-cited application), carried out comparative experimentation (Experiments Nos. 1 to 3) by repeating Example 1 of the present application, except that "HTR-3" used as component (C) in Example 1 was replaced with copolymers having a lower vinyl content than the vinyl content utilized in claim 1, and the results are shown in Attachment 1 (a copy of which is attached hereto). This Declaration is submitted as evidence that I carried out Experiments 1-3 of Attachment 1, utilizing the components indicated and under the same conditions as those specified in the specification of the above-cited application. That is, in the Experiments 1-3, respective components were melt kneaded using a double-screw extruder (ZSK25 (L/D=46) manufactured by Werner & Pfleiderer) to obtain a resin composition. PPE and GPPS were supplied from a hopper of the extruder, and block copolymers and HIPS were added from a side feed opening provided at a position of L/D=15 or more. The temperature was set to 280°C, and the discharge rate was set to 15 to 25 kg. The evaluation results of resin compositions obtained are shown in Attachment 1, which is attached hereto. As is clear from Attachment 1, "SEPTON#2004" is similar to HTR-3, which is used as

component (C), except that the vinyl content is different. As is shown in the Table in Attachment 1, the compositions using SEPTON#2004 resulted in poor chemical resistance. Conditions employed were the same as those set forth in the specification. Hence, it is respectfully submitted that the low vinyl content of SEPTON#2004 resulted in poor chemical resistance.

Experiments 2 and 3 used copolymers having a lower vinyl content and resulted in poor chemical resistance regardless of the styrene content or Melt Index (MI) of the copolymer product. Hence, the importance of the vinyl content requirement is clear.

4. I hereby declare that all statements, made herein of my own knowledge, are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and that such willful and false statements may jeopardize the validity of the application or any patent issuing therefrom

Date: July 30, 2008

T. Fujisawa
Takoshi Fujisawa

Attachment 1

| | Example 1 | Comparative Example 1 | Experiment 1 | Experiment 2 | Experiment 3 |
|----------------------------------|------------|-----------------------|--------------|--------------|--------------|
| Characteristics of Component (C) | | | Septon#2004 | Septon#2007 | Septon#2004 |
| Vinyl content % | 55 | 8 | <20 | <20 | <20 |
| Styren content % | 20 | 47 | 18 | 30 | 13 |
| MI (230°C, 2.16kg) g/10min | 4 | ? | 5 | 2.4 | 7 |
| (A) PPE-1 wt% | 9.75 | 9.75 | 9.75 | 9.75 | 9.75 |
| PPE-2 | 29.03 | 29.03 | 29.03 | 29.03 | 29.03 |
| HIPS | 12.02 | 12.02 | 12.02 | 12.02 | 12.02 |
| GPPS | 33.20 | 33.20 | 33.20 | 33.20 | 33.20 |
| (B) HTR-1 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| (C) HTR-3 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 |
| HTR-4 | | | | | |
| SEPTON | | | | | |
| Characteristics of Composition | | | | | |
| MFR g/10min | 13 | 9.5 | 12 | 8 | 13 |
| HDT °C | 120 | 121 | 118 | 121 | 118 |
| IZOD J/m | 180 | 134 | 145 | 133 | 145 |
| FM MPa | 2350 | 2340 | 1990 | 2050 | 1880 |
| Chemical Resistance | | | | | |
| Ethyl Benzoate | 8~10 days | <12 hours | <12 hours | <12 hours | <12 hours |
| Diethyl Phthalate | 8~12 days | <12 hours | <12 hours | <12 hours | <12 hours |
| Palm Oil | 10~15 days | <12 hours | <12 hours | <12 hours | <12 hours |
| Judgment | Good | Unacceptable | Unacceptable | Unacceptable | Unacceptable |

(2)

kuraray

ENGLISH

CHINESE



セプトン

高性能可塑性エラストマー

セプトンとは

セプトンの特徴

セプトンの基本物性

応用物性



セプトン Vシリーズ

高性能可塑性エラストマー

ハイフラー

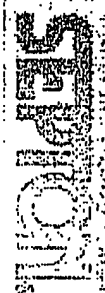
初級性能可塑性エラストマー

What's New

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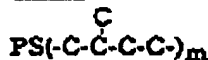
セプトンの特長

- 熱可塑性です。
- 加硫加工なしで加硫ゴムのような高弾性・高強度を示します。
- 耐熱劣化性に優れています。
- 耐候性に優れています。
- 低温特性に優れています。[エラストマー部T_g:約-50℃]
- オレフィン系ポリマー、ステレン系ポリマーとの親和性が良好です。
- 優れた電気特性(絶縁性)を示します。
- 耐薬品性(酸、アルカリ、アルコール)に優れています。
- 低比重です。
- 安全性に優れています。

セプトンの種類

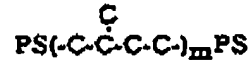
セプトンには以下の4つのタイプがあり、それぞれに特長を有していますので用途に応じた選択が可能です。

SEP¹



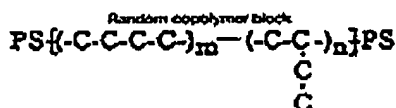
流動性・低温特性に優れています

SEPS²



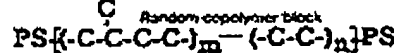
非晶性で引張弾性に優れています

SEBS³



適度な破断強度を有します

SEEPS⁴



高い破断強度、適度な伸びを示します
吸油性が高いです
ポリエチレンとの相溶性が良好です

- *1 ポリスチレン-ポリ(エチレン/プロピレン)ブロック
- *2 ポリスチレン-ポリ(エチレン/プロピレン)ブロック-ポリスチレン
- *3 ポリスチレン-ポリ(エチレン/ブチレン)ブロック-ポリスチレン
- *4 ポリスチレン-ポリ(エチレン-エチレン/プロピレン)ブロック-ポリスチレン

ページトップへ戻る